



Figure 3. The proposed local feature aggregation module. The top panel shows the location spatial encoding block that extracts features, and the attentive pooling mechanism that weights the most important neighbouring features, based on the local context and geometry. The bottom panel shows how two of these components are chained together, to increase the receptive field size, within a residual block.

图 1: RandLA_Net

分析:

- 随机采样，然后通过 local spatial encoding, Attentive Pooling 通过类似 ResNet 的结构组织起来，对特征进行聚合。(能够处理较大规模的数据)

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$$\mathbf{r}_i^k = MLP(p_i \oplus p_i^k \oplus (p_i - p_i^k) \oplus \|p_i - p_i^k\|)$$

语义分割 通过叠加 4 个局部特征聚合模型，对点云的特征进行编码 (encoder), 然后使用 MLP 对聚合的特征进行 decoder, 最后对每个点进行分类 (mlp)